

GPP TRANSIENT VOLTAGE SUPPRESSOR
600 WATT PEAK POWER 1.0 WATT STEADY STATE

FEATURES

- * Plastic package has underwriters laboratory
- * Glass passivated chip construction
- * 600 watt surge capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time

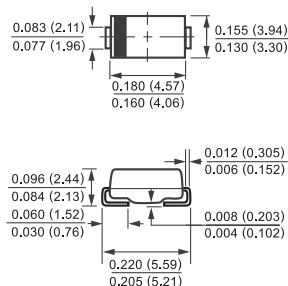
Ratings at 25 °C ambient temperature unless otherwise specified.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



DO-214AA



Dimensions in inches and (millimeters)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA suffix for types TFMBJ5.0 thru TFMBJ170

Electrical characteristics apply in both direction

MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation with a 10/1000uS (Note 1,2, Fig.1)	PPPM	Minimum 600	Watts
Peak Pulse Current with a 10/1000uS waveform (Note 1, Fig.3)	IPPM	SEE TABLE 1	Amps
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ (Note 2)	PM(AV)	5.0	Watts
Peak Forward Surge Current 8.3mS single half sine-wave superimposed on rated load (JEDEC method) (Note 2,3) unidirectional only	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 50A for unidirectional only (Note 3,4)	V_F	SEE NOTE 4	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

NOTES : 1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.2.

2. Mounted on 0.2 X 0.2" (5.0 X 5.0mm) copper pad to each terminal.

3. Lead temperature at $T_L = 25^\circ\text{C}$

4. Measured on 8.3mS single half sine-wave duty cycle = 4 pules per minute maximum.

5. $V_F = 3.5\text{V}$ on TFMBJ-5.0 thru TFMBJ-90 devices and $V_F = 5.0\text{V}$ on TFMBJ-100 thru TFMBJ-170 devices.

1998-8

RATING AND CHARACTERISTIC CURVES (TFMBJ5.0 THRU TFMBJ170CA)

FIG. 1 - PEAK PULSE POWER RATING CURVE

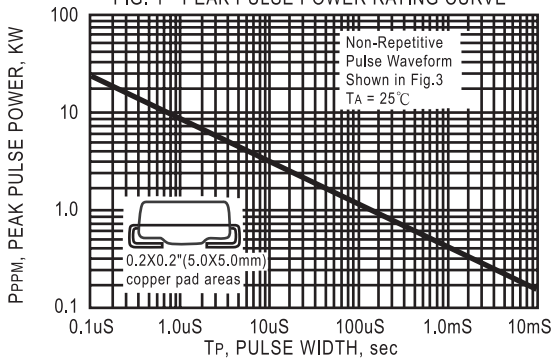


FIG. 2 - PULSE DERATING CURVE

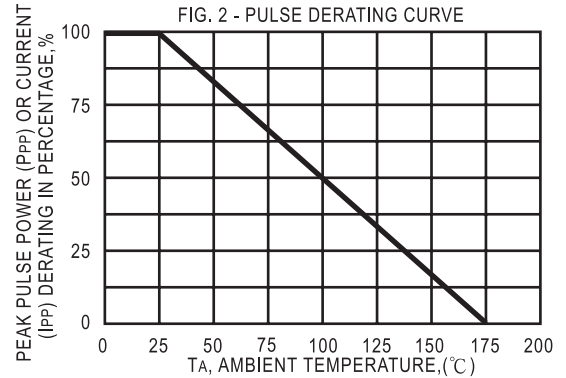


FIG. 3 - PULSE WAVEFORM

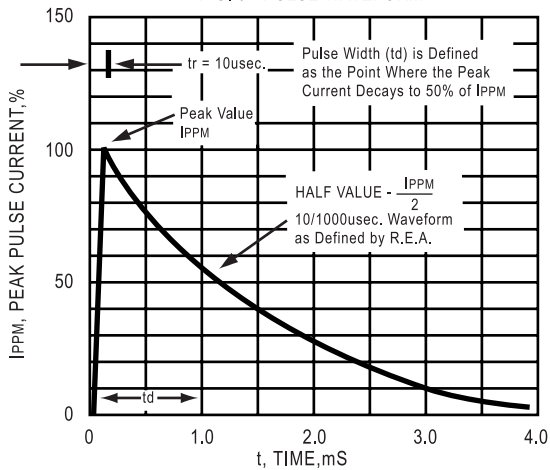


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

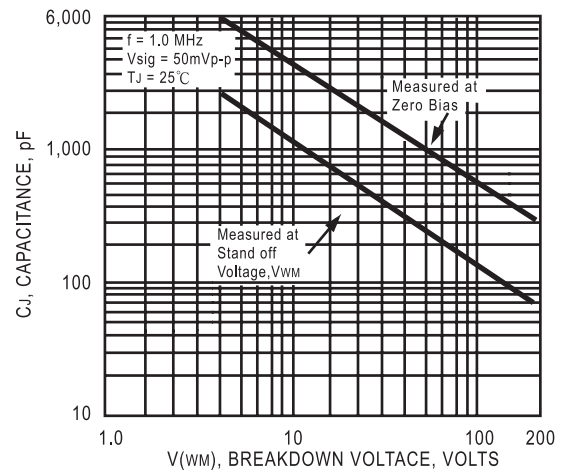


FIG. 5 - TYPICAL JUNCTION CAPACITANCE BIDIRECTIONAL

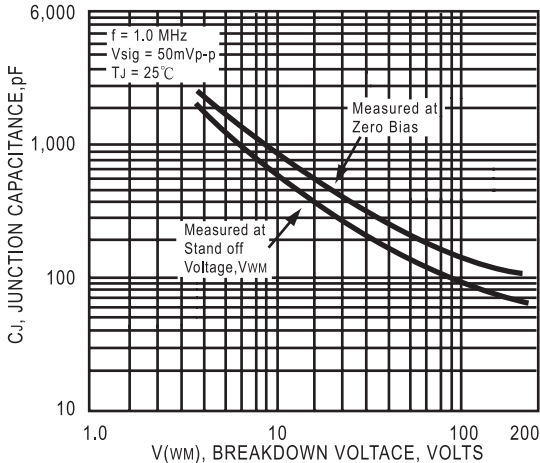
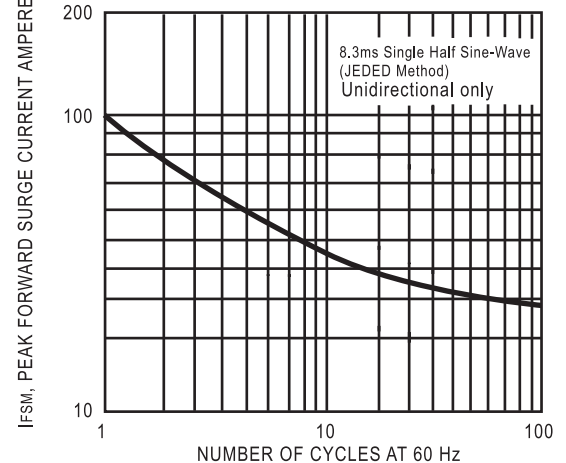


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



TRANSIENT VOLTAGE SUPPRESSORS

600W SERIES TVS DIODES / DO-214AA (CASE 3) 600W

TYPE	Breakdown Voltage		Reverse Stand off Voltage VWM (Volts)	Maximum Reverse Leakage at VWM Id(uA)	Maximum Peak Pulse Current IPPM (Amps)	Maximum Clamping Voltage at IPPM Vc (Volts)	
	VBR (Volts)						@IT (mA)
	MIN.	MAX.					
TFMBJ5.0	6.40	7.30	10	5.0	800.0	65.0	9.6
TFMBJ5.0A	6.40	7.00	10	5.0	800.0	68.0	9.2
TFMBJ6.0	6.67	8.15	10	6.0	800.0	55.0	11.4
TFMBJ6.0A	6.67	7.37	10	6.0	800.0	61.0	10.3
TFMBJ6.5	7.22	8.82	10	6.5	500.0	51.0	12.3
TFMBJ6.5A	7.22	7.98	10	6.5	500.0	56.0	11.2
TFMBJ7.0	7.78	9.51	10	7.0	200.0	47.0	13.3
TFMBJ7.0A	7.78	8.86	10	7.0	200.0	52.0	12.0
TFMBJ7.5	8.33	10.2	1.0	7.5	100.0	44.0	14.3
TFMBJ7.5A	8.33	9.21	1.0	7.5	100.0	48.0	12.9
TFMBJ8.0	8.89	10.9	1.0	8.0	50.0	42.0	15.0
TFMBJ8.0A	8.89	9.83	1.0	8.0	50.0	46.0	13.6
TFMBJ8.5	9.44	11.5	1.0	8.5	20.0	39.0	15.9
TFMBJ8.5A	9.44	10.4	1.0	8.5	20.0	43.0	14.4
TFMBJ9.0	10.0	12.2	1.0	9.0	10.0	37.0	16.9
TFMBJ9.0A	10.0	15.0	1.0	9.0	10.0	40.0	15.4
TFMBJ10	11.1	13.6	1.0	10.0	5.0	33.0	18.8
TFMBJ10A	11.1	12.3	1.0	10.0	5.0	37.0	17.0
TFMBJ11	12.2	14.9	1.0	11.0	5.0	31.0	20.1
TFMBJ11A	12.2	13.5	1.0	11.0	5.0	34.0	18.2
TFMBJ12	13.3	16.3	1.0	12.0	5.0	28.0	22.0
TFMBJ12A	13.3	14.7	1.0	12.0	5.0	31.0	19.9
TFMBJ13	14.4	17.6	1.0	13.0	5.0	26.0	23.8
TFMBJ13A	14.4	15.9	1.0	13.0	5.0	29.0	21.5
TFMBJ14	15.6	19.1	1.0	14.0	5.0	24.4	25.8
TFMBJ14A	15.6	17.2	1.0	14.0	5.0	27.0	23.2
TFMBJ15	16.7	20.4	1.0	15.0	5.0	23.1	26.9
TFMBJ15A	16.7	18.5	1.0	15.0	5.0	25.0	24.4
TFMBJ16	17.8	21.8	1.0	16.0	5.0	21.8	28.8
TFMBJ16A	17.8	19.7	1.0	16.0	5.0	24.2	26.0
TFMBJ17	18.9	23.1	1.0	17.0	5.0	20.0	30.5
TFMBJ17A	18.9	20.9	1.0	17.0	5.0	22.8	27.6
TFMBJ18	20.0	24.2	1.0	18.0	5.0	19.5	32.2
TFMBJ18A	20.0	22.1	1.0	18.0	5.0	21.5	29.2
TFMBJ20	22.2	27.1	1.0	20.0	5.0	17.6	35.8
TFMBJ20A	22.2	24.5	1.0	20.0	5.0	19.4	32.4
TFMBJ22	24.4	29.8	1.0	22.0	5.0	15.0	39.4
TFMBJ22A	24.4	26.9	1.0	22.0	5.0	17.7	35.5
TFMBJ24	26.7	32.6	1.0	24.0	5.0	14.6	43.0
TFMBJ24A	26.7	29.5	1.0	24.0	5.0	16.0	38.9
TFMBJ26	28.9	35.3	1.0	26.0	5.0	13.5	46.6
TFMBJ26A	28.9	31.9	1.0	26.0	5.0	14.9	42.1
TFMBJ28	31.1	38.0	1.0	28.0	5.0	12.6	50.1
TFMBJ28A	31.1	34.4	1.0	28.0	5.0	13.8	45.4
TFMBJ30	33.3	40.7	1.0	30.0	5.0	11.7	53.5
TFMBJ30A	33.3	36.8	1.0	30.0	5.0	13.0	48.4
TFMBJ33	36.7	44.9	1.0	33.0	5.0	10.6	59.0
TFMBJ33A	36.7	40.6	1.0	33.0	5.0	11.8	53.3
TFMBJ36	40.0	48.9	1.0	36.0	5.0	9.8	64.3
TFMBJ36A	40.0	44.2	1.0	36.0	5.0	10.8	58.1

TRANSIENT VOLTAGE SUPPRESSORS

600W SERIES TVS DIODES / DO-214AA (CASE 3) 600W

TYPE	Breakdown Voltage			Reverse Stand off Voltage VWM (Volts)	Maximum Reverse Leakage at VWM ID(uA)	Maximum Peak Pulse Current IPPM (Amps)	Maximum Clamping Voltage at IPPM VC (Volts)
	VBR (Volts)		@IT (mA)				
	MIN.	MAX.					
TFMBJ40	44.4	54.3	1.0	40	5.0	8.8	71.4
TFMBJ40A	44.4	49.1	1.0	40	5.0	9.7	64.5
TFMBJ43	47.8	58.4	1.0	43	5.0	8.2	76.7
TFMBJ43A	47.8	52.8	1.0	43	5.0	9.0	69.4
TFMBJ45	50.0	61.1	1.0	45	5.0	7.8	80.3
TFMBJ45A	50.0	55.3	1.0	45	5.0	8.6	72.7
TFMBJ48	53.3	65.1	1.0	48	5.0	7.3	85.5
TFMBJ48A	53.3	58.9	1.0	48	5.0	8.1	77.4
TFMBJ51	56.7	69.3	1.0	51	5.0	6.9	91.1
TFMBJ51A	56.7	62.7	1.0	51	5.0	7.6	82.4
TFMBJ54	60.0	73.3	1.0	54	5.0	6.5	96.3
TFMBJ54A	60.0	66.3	1.0	54	5.0	7.2	87.1
TFMBJ58	64.4	78.7	1.0	58	5.0	6.1	103
TFMBJ58A	64.4	71.2	1.0	58	5.0	6.7	93.6
TFMBJ60	66.7	81.5	1.0	60	5.0	5.8	107
TFMBJ60A	66.7	73.7	1.0	60	5.0	6.5	96.8
TFMBJ64	71.1	86.9	1.0	64	5.0	5.5	114
TFMBJ64A	71.1	78.6	1.0	64	5.0	6.1	103
TFMBJ70	77.8	95.1	1.0	70	5.0	5.0	125
TFMBJ70A	77.8	86.0	1.0	70	5.0	5.5	113
TFMBJ75	83.3	102	1.0	75	5.0	4.7	134
TFMBJ75A	83.3	92.1	1.0	75	5.0	5.2	121
TFMBJ78	86.7	106	1.0	78	5.0	4.5	139
TFMBJ78A	86.7	95.8	1.0	78	5.0	5.0	126
TFMBJ85	94.4	115	1.0	85	5.0	4.1	151
TFMBJ85A	94.4	104	1.0	85	5.0	4.6	137
TFMBJ90	100	122	1.0	90	5.0	3.9	160
TFMBJ90A	100	111	1.0	90	5.0	4.3	146
TFMBJ100	110	136	1.0	100	5.0	3.5	179
TFMBJ100A	110	123	1.0	100	5.0	3.8	162
TFMBJ110	122	149	1.0	110	5.0	3.2	196
TFMBJ110A	122	135	1.0	110	5.0	3.5	177
TFMBJ120	133	163	1.0	120	5.0	2.9	214
TFMBJ120A	133	147	1.0	120	5.0	3.2	193
TFMBJ130	144	176	1.0	130	5.0	2.7	231
TFMBJ130A	144	159	1.0	130	5.0	3.0	209
TFMBJ150	167	204	1.0	150	5.0	2.3	268
TFMBJ150A	167	185	1.0	150	5.0	2.5	243
TFMBJ160	178	218	1.0	160	5.0	2.2	287
TFMBJ160A	178	197	1.0	160	5.0	2.4	259
TFMBJ170	189	231	1.0	170	5.0	2.0	304
TFMBJ170A	189	209	1.0	170	5.0	2.2	275

- NOTES : 1. V_{BR} measured after I_T applied for 300ms. I_T = square pluse or equivalent.
2. For bidirectional use C or CA suffixs for all types (ex. TFMBJ5.0C,TFMBJ170CA) electrical characteristics apply in both directions.
3. For bidirectional types having V_{WM} of 10 volts and less, the I_D limit is doubled.